I claim:

1. An system for evacuation of an upper floor of a high-rise building, the evacuation station comprising:

a) a portable carrier located at the upper floor of the building; the carrier having a closed bottom, surrounding closed sides extending upwardly from the bottom and terminating in an upper surrounding flange, and a guide ring extending radially outwardly from the flange for guiding radially outwardly thereof; the carrier being sized to accommodate an adult;

b) a stationary landing ramp exiting to the outside environment at ground level,

c) a stationary evacuation tube extending vertically from the upper floor in the building to the landing ramp; the tube having an open upper entrance end at the upper floor and an open lower exit end communicating with the landing ramp; the inside profile of the upper portion of the tube being configured for mechanically unrestricted pneumatically damped free-fall of the carrier in the tube, and the inside profile of the lower portion of the evacuation tube approaching the size of the guide ring for approaching zero clearance therebetween, whereby the speed of the carrier reduces as a result of pneumatic damping as it descends in the tube; and

d) upper and lower valves spanning across the lower end of the evacuation tube proximately above the landing ramp, the valves being automatically operated sequentially between open and closed positions to establish an airlock between the inside of the evacuation tube and the outside environment as the carrier passes therethrough.

2. The evacuation station as defined in claim 1 in which the valves are pneumatically operated free of electrical power requirements.

3. The evacuation station as defined in claim 1 in which the inside profile of the upper portion of the evacuation tube is configured for a first clearance fit with the guide ring in the carrier, the inside profile of the center portion of the evacuation tube is configured for a second clearance fit with the guide ring less that the first clearance fit, and the inside profile of the lower portion of the evacuation tube is configured for a third clearance fit with the guide ring less that the second clearance fit, whereby the inside profile of the tube is configured for progressively increasing pneumatically-damped free fall such that the speed of the descending carrier reduces from pneumatic damping as it passes from the upper to the center portion of the evacuation tube and again as the carrier passes from the center to the lower portion of the evacuation tube.

4. The evacuation station as defined in claim 1 in which the evacuation tube is of thick-wall metal construction for resistance to damage from outside influences, and the lower portion of the evacuation tube as established between the upper valve and the lower exit end of the tube is formed from see-through material for visually monitoring the status of carriers in the lower portion of the tube.

5. The evacuation station as defined in claim 1 in which the carrier and the evacuation tube are formed with complimentary cylindrical construction.

6. The evacuation station as defined in claim 1 in which the evacuation tube is secured to the outside of the building, the system further comprising a housing connected to the outside of the building and surrounding the open upper entrance end of the evacuation tube from the outside environment.

7. The evacuation system as defined in claim 1 in which the carrier further includes a fixed seat and a handle for assistance in securing the user's position in the carrier during descent of the carrier through the evacuation tube.

8. The evacuation system as defined in claim 1 in which the landing ramp curves downwardly from the lower exit end of the tube to ground level.

9. The evacuation system as defined in claim 1 further comprising a retaining lip structure operative for resilient movement between a first position holding the carrier aligned with the center axis of the evacuation tube, and a second position releasing the carrier into the upper open end of the evacuation tube for said pneumatically damped free-fall through the tube.

10. The evacuation station as defined in claim 9 further comprising a seat proximate the upper entrance end of the tube to assist a user in entering the carrier when held in said position aligned with the center axis of the evacuation tube.

11. The evacuation system as defined in claim 1 further comprising a carrier holder located at the upper floor of the building, the carrier holder having a frame with upper and lower ends and a cavity therebetween sized to hold a stack of carriers, one of said frame ends having an opening communicating with the cavity and sized to slidably receive said stack of carriers and through which the carriers can be removed, means for biasing the stack of carriers towards said opening in said one frame end, and a resilient lip at said opening configured to normally retain the carriers in the holder against said biasing means and past which each carrier may pass as it is removed from the holder.

12. The evacuation system as defined in claim 1 further comprising upper and lower tripper switches associated with the upper and lower valves, the upper and lower tripper switches being operative to detect the passing of a carrier through the upper and lower valves, respectively, when said valves are in said open positions, the upper and lower tripper switches being further operative to cause said upper and lower valves to close upon detection of the passing of a carrier therethrough, the system further comprising first and second end-of-stroke switches operative to detect full closing of the upper and lower valves, respectively, and to cause opening of the lower and upper valves upon detection of full closing of the upper and lower valves, respectively.

13. The evacuation system as defined in claim 1 further comprising a voice tube extending from the upper floor of the building to ground level proximate the evacuation tube for non-powered communication between the upper floor and the ground.

14. The evacuation system as defined in claim 1 in which the guide ring is integral with the upper flange of the carrier.

15. An system for evacuation of an upper floor of a high-rise building, the evacuation station comprising:

a) a portable carrier located at the upper floor of the building; the carrier having a closed bottom, surrounding closed sides extending upwardly from the bottom and terminating in an upper surrounding flange; the carrier having a generally cylindrical outermost profile and having an inner configuration sized to accommodate an adult;

b) a stationary landing ramp exiting to the outside environment at ground level,

c) a stationary cylindrical evacuation tube extending vertically from the upper floor in the building to the landing ramp; the tube having an open upper entrance end at the upper floor and an open lower exit end communicating with the landing ramp; - the outside diameter of the outermost profile of the carrier and the inside diameter of the evacuation tube being configured for mechanically unrestricted progressively increasing pneumatically damped free-fall of the carrier in the tube whereby the speed of the carrier reduces as a result of increasing pneumatic damping as it descends in the tube; and

d) an air-lock mechanism located in the inside lower end of the evacuation tube to establish an airlock between the inside of the evacuation tube and the outside environment, the air-lock mechanism being automatically operated to maintain said airlock as the carrier approaches and passes therethrough to the landing ramp and outside environment.

16. The evacuation station as defined in claim 15 in which the inside diameter of the upper portion of the evacuation tube is configured for a first clearance fit with said outside diameter of the carrier, the inside diameter of the center portion of the evacuation tube is configured for a second clearance fit with said outside diameter of the carrier less that the first clearance fit, and the inside diameter of the lower portion of the evacuation tube is configured for a third clearance fit with said outside diameter of the carrier less that the second clearance fit, whereby the inside diameter of the tube is configured such that the speed of the descending carrier reduces from increasing pneumatic damping as it passes from the upper to the center portion of the evacuation tube and again as the carrier passes from the center to the lower portion of the evacuation tube.

17. The evacuation station as defined in claim 15 in which the evacuation tube is of thick-wall metal construction for resistance to damage from outside influences, and the lower portion of the evacuation tube as established between the position of the airlock mechanism and the lower exit end of the tube is formed from see-through material for visually monitoring the status of carriers in the lower portion of the tube.

18. The evacuation station as defined in claim 15 in which the evacuation tube is secured to the outside of the building, the system further comprising a housing connected to the outside of the building and surrounding the open upper entrance end of the evacuation tube from the outside environment.

19. The evacuation system as defined in claim 15 in which the carrier further includes a fixed seat and a handle for assistance in securing the user's position in the carrier during descent of the carrier through the evacuation tube.

20. The evacuation system as defined in claim 15 in which the landing ramp curves downwardly from the lower exit end of the tube to ground level.

21. The evacuation system as defined in claim 15 further comprising a retaining lip structure operative for resilient movement between a first position holding the carrier aligned with the center axis of the evacuation tube, and a second position releasing the carrier into the upper open end of the evacuation tube for said pneumatically damped free-fall through the tube.

22. The evacuation station as defined in claim 21 further comprising a seat proximate the upper entrance end of the tube to assist a user in entering the carrier when held in said position aligned with the center axis of the evacuation tube.

23. The evacuation system as defined in claim 15 further comprising a carrier holder located at the upper floor of the building, the carrier holder having a frame with upper and lower ends and a cavity therebetween sized to hold a stack of carriers, one of said frame ends having an opening communicating with the cavity and sized to slidably receive said stack of carriers and through which the carriers can be removed, means for biasing the stack of carriers towards said opening in said one frame end, and a resilient lip at said opening configured to normally retain the carriers in the holder against said biasing means and past which each carrier may pass as it is removed from the holder.

24. The evacuation system as defined in claim 15 in which the airlock mechanism includes (i) upper and lower valves spanning across the lower end of the evacuation tube proximately above the landing ramp, the valves being automatically and pneumatically sequentially operated free of electrical power requirements between open and closed positions to establish an airlock between the inside of the evacuation tube and the outside environment as the carrier passes therethrough, (ii) upper and lower tripper switches associated with the upper and lower valves, the upper and lower tripper switches being operative to detect the passing of a carrier through the upper and lower valves, respectively, when said valves are in said open positions, the upper and lower tripper switches being further operative to cause said upper and lower valves to close upon detection of the passing of a carrier therethrough, and (iii) first and second end-of-stroke switches operative to detect full closing of the upper and lower valves, respectively, and to cause opening of the lower and upper valves upon detection of full closing of the upper and lower valves, respectively.

25. The evacuation system as defined in claim 15 further comprising a voice tube extending from the upper floor of the building to ground level proximate the evacuation tube for non-powered communication between the upper floor and the ground.